ANIMAL HEALTH MONITORING AND SURVEILLANCE

PROGRAM PROFILE

Goal

To enhance the quality, safety, and competitiveness of U.S. food animal products by: (1) protecting and monitoring the health of the nation's livestock and poultry, (2) maintaining the capability to detect and assess disease and control or eradicate FAD's in a cost-effective manner, (3) monitoring animal diseases of economic importance and assisting the livestock industry in controlling or eradicating domestic diseases, (4) responding to inquiries from foreign countries on pests and diseases not covered by any individual budget line item, and (5) protecting the poultry industry from losses due to diseases and improve poultry and poultry products through the control of these diseases.

Enabling Legislation

7 USC 147; PL 78-425. 7 USC 429; 1944 Organic Act. 21 USC 114; 1884 Animal Ind. Act. 21 USC 134;PL 87-518. 7 USC 3801; 1980 SHP Act.

Economic Significance

Animal diseases increase costs to producers, consumers, and governments. Production yields drop and export markets can be lost. Livestock and poultry disease costs represent over $2 billion in preventable losses, but could be catastrophic if a FAD enters the United States. FMD could cost $12 billion over 15 years and African swine fever would cost $300-600 million to eradicate and it can kill entire herds. Destruction of infected animals is the best known method of effectively coping with these diseases. Annual export loss due to bluetongue has cost as much as $125 million annually and annual loss estimates due to mycoplasmosis are $150 million. The U.S. cattle industry is valued at $40 billion per year, the U.S. dairy industry is valued $19 billion, and the value of U.S. sheep industry is $500 million. Endemic Velogenic Viscerotrogic Newcastle Disease (VVND) would cost the $17 billion U.S. poultry industry over $600 million per year. The 1983-84 avian influenza outbreak cost producers $72 million in losses and cost APHIS $64 million to control. The swine industry, which has a production value of $11 billion, generates $66 billion of economic output and 764,000 jobs each year, providing $23 billion in personal income.

Principal Approach and Methods Used to Achieve Goals	The program emphasizes prevention and early detection through surveillance and is developing a coordinated, integrated national monitoring and surveillance system. The program interprets and disseminates information on animal health, productivity, and disease risk gained through animal health monitoring, disease trend surveillance, epidemiological analyses, and risk assessment. The program provides scientifically sound and statistically valid data on the incidence, trends, and impact of animal diseases. The program compiles diagnostic reports to monitor disease trends and shares information about new techniques. The program conducts surveillance programs to rapidly detect FAD introductions and develops procedures for containing and eliminating outbreaks. One surveillance tool APHIS uses to identify trends in swine and cattle disease agents is the Veterinary Diagnostic Laboratory Reporting System, which develops diagnostic reports from State veterinary laboratories. Methods include surveys, epidemiologic studies, prevention, and quarantine. Quarantine includes observation of all avian species entering the country. Additional activities include support of inspections of garbage feeding facilities, and surveillance for Classical Swine Fever.
History	This line item was established in FY 1994. It combines the surveillance portions of the brucellosis, pseudorabies, and tuberculosis programs with the Animal Disease Detection, NPIP, poultry diseases, SHP, and the miscellaneous animal diseases programs. The line item ensures that disease surveillance and detection, emergency disease preparedness and response, animal health monitoring, and epidemiologic delivery will continue after major animal disease eradication programs are completed. In FY 1998, funds were included by Congress to draft regulations and enforce these regulations for a humane slaughter horse program.
State and Local Cooperation	Cooperative Federal-State-industry-university program. State and industry cooperation is intensified in emergencies.
Involvement of Other Agencies	FSIS, ERS, ARS, Customs, NASS, DOD, HHS, CDC, FDA, State universities and agriculture departments, Ext. Service, & FWS.

RESOURCE DATA

	Obligations			
	Direct	Reimbursement	User Fees	Staff-Years
FY 1996	58,254,211	--	--	629
FY 1997	60,377,986	--	--	649
FY 1998	60,659,295	--	--	651
FY 1999 (est.)	63,389,000	--	--	657
FY 2000 (est.)	67,989,000	--	--	668

	APHIS	Coop	Total	CCC	Contingency Fund
Cum.	$432,437,818	$589,653,016	$1,022,090,834	--	$387,455

RECENT ACCOMPLISHMENTS

Foreign Animal Disease

In FY 1998, APHIS conducted 313 investigations for suspected foreign animal diseases (FAD). One hundred and seventy of these involved vesicular disease conditions, 52 involved encephalitic/central nervous system disorders, 22 involved avian diseases, 8 involved mucosal disease conditions, 12 involved septicemia conditions, and 49 involved other disease conditions including excessive acute death, poxlike conditions, myiasis/ acariasis, respiratory diseases, and spontaneous abortions.

BSE

APHIS also continued its bovine spongiform encephalopathy (BSE) surveillance program. As of September 30, 1998, pathologists at NVSL had examined a total of 7,471 bovine brains, none of which contained lesions characteristic of BSE. No cases of BSE have been diagnosed in the United States.

Training Courses

APHIS continued to increase FAD awareness by conducting training courses and providing in-depth information on exotic animal diseases in equine, swine, birds, and ruminants. Topics included biosecurity issues, sample submissions, investigation techniques, disease control concepts, specific information on exotic animal diseases, and their potential economic threat to the U.S. poultry, livestock, and wildlife populations.

National Animal Health Monitoring System (NAHMS)

Analysis and interpretation of the Dairy '96 Study (National Dairy Monitoring) data continued. The study assessed dairy cow health and productivity in 20 states that represented 83.1 percent of the U.S. milk cows. Over 2,500 producers participated in the project. Reports released were Johne's disease on U.S. Dairy Operations - October 1997 and E. coli 0l57 and Salmonella Status on U.S. Dairy Operations - May 1998.

The on-farm data and biologic sample collection for Beef '97 (National Beef Cow/Calf Monitoring) continued through early January 1998 from 1,190 participating producers. This study was designed to proactively collect and interpret data supporting U.S. trade (Johnes, Bovine Leukosis); emerging disease conditions (Salmonella DT104); disease control (Brucellosis Vaccination, Tuberculosis); industry quality assurance (injection practices); emergency preparedness (biosecurity and vaccination practices); production efficiency (awareness of new technologies); and trends in animal health. This data and sample collection is a representative sample from 23 leading cow/calf states (Alabama, Arkansas, California, Colorado, Florida, Georgia, Illinois, Iowa, Kansas, Kentucky, Mississippi, Missouri, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Tennessee, Texas, Wyoming, and Virginia).

The NAHMS Equine '98 Study was designed to provide both participants and the industry with information on the nation's equine population for education and research. The key areas identified for inclusion in the 1998 national study were: describe baseline management practices, estimate prevalence of specific equine health issues, and evaluate the impact these specific health issues present for the U.S. equine population as well as potential risk factors for their occurrence. From March through April 1998, data was collected on equine health and management practices via personal interviews from a representative sample of equine operations in 28 states (Alabama, California, Colorado, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Missouri, Montana, New Jersey, New Mexico, New York, Ohio, Oklahoma, Oregon, Pennsylvania, Tennessee, Texas,

Virginia, Washington, Wisconsin, and Wyoming). The National Agricultural Statistics Service (NASS) collaborated with APHIS to select a statistically-valid sample such that inferences can be made for all places with equids and for all equids in these 28 states. The sample provided 2,904 participating operations from these states. The 28 state target population represented 78.2 percent of U.S. horses and ponies and 78.0 percent of farms with horses and ponies. Biologic samples were collected and tested from horses at many of the participating operations, to estimate prevalence of key diseases affecting the U.S. horse population. Two descriptive reports were published based on the first phase of data collection: Part I and Part II - Baseline Reference of 1998 Equine Health and Management were released in August and September 1998 respectively.

In FY 1998, NAHMS collaboration with the U.S. table egg layer industry has intensified with the development and design of a study to meet their needs. A number of meetings with industry representatives and producers were held to identify the specific needs. Data collection instruments have been pre-tested and training will take place in January 1999 followed by data collection. Fifteen states have been identified to be included in the study - Alabama, Arkansas, California, Florida, Georgia, Indiana, Iowa, Minnesota, Missouri, Nebraska, North Carolina, Ohio, Pennsylvania, Texas and Washington. These states account for about three-fourths of the table egg layers in the U.S. The study focus will be to describe baseline health and management estimate the national prevalence of Salmonella enteritidis and identify potential risk factors, and to describe biosecurity practices.

Miscellaneous Diseases

From October to November 1997, APHIS conducted its annual bluetongue survey of cattle in six northeastern and north central States including Delaware, Maryland, Pennsylvania, New Jersey, Indiana, and Ohio. These six states had exceeded the 2 percent allowance level (which is needed for the less restrictive exportation of animals to Canada) in the 1996-1997 survey. Of the 2,512 slaughter samples tested in FY 1998, 21 (.8 percent) were positive.

APHIS continued to participate with industry representatives and members of the scientific community to develop the framework for a voluntary bovine leukosis-free herd certification program. Several States have certification programs for bovine leukosis, but this is the first attempt to develop a mechanism to recognize herds as leukosis-free on a national level. Bovine leukosis is a major obstacle to cattle exportation to the European Community, where many member nations have mandatory control or eradication programs.

The State-Federal cooperative EIA monitoring system revealed that in FY 1998, of the 1,397,962 horses tested, 1,376 were infected with EIA. Trend analyses comparing more recent data with data from FY 1991 through FY 1995 indicate a shift of infectious hot spots from the Texas/Oklahoma area to the Western United States.

Tuberculosis

The Agency tested 1,059 TB suspect tissues, submitted by meat inspection personnel, from slaughtered cattle in FY 1998. Of these, 440 were adult cattle with the remaining 619 being immature feedlot cattle. Of these, we completed 31 feedlot traceback investigations. We traced 14 (45 percent) back to Mexico. For the past 10 years, 76 percent of all feedlot cases were traced back to Mexico.

Swine Health Protection

APHIS continued to monitor swine garbage feeding operations for the presence of foreign animal disease. State and Federal inspectors conducted an estimated 15,368 inspections of licensed garbage feeding premises. An estimated total of 43,252 searches for unlicensed garbage feeders was also conducted. These inspections and searches resulted in 312 documented violations.